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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-------------------------|-------------------------------|------------------|
| 10/084,761 | 02/20/2002 | Hiroshi Sawada | JCLA8894 | 3473 |
| 7590 | 10/04/2002 | | | |
| J.C. Patents Suite 250 4 Venture Irvine, CA 92618 | | | EXAMINER ESTRADA, MICHELLE | |
| | | ART UNIT 2823 | PAPER NUMBER 5 | |
| | | DATE MAILED: 10/04/2002 | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| Application No. | Applicant(s) |
|------------------|-----------------|
| 10/084,761 | SAWADA, HIROSHI |
| Examiner | Art Unit |
| Michelle Estrada | 2823 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
2a) This action is FINAL. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
5) Claim(s) ____ is/are allowed.
6) Claim(s) 1-20 is/are rejected.
7) Claim(s) ____ is/are objected to.
8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ . 4) Interview Summary (PTO-413) Paper No(s). ____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____ .

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "ultra short" in claims 1-20 is a relative term, which renders the claim indefinite. The term "ultra short" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. If applicant intends any specific time, it must be clearly recited.

In claim 2, line 3, it appears that "not more" should be replaced by --less--.

Claim 3 recites the limitation "the surface layer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

In claim 3, line 3, it is questioned what is recited through use of "an improved state".

In claim 11, line 3, it appears that "not more" should be replaced with --less--.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, 3, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Harris et al. (3,824,678).

Harris et al. disclose irradiating a substrate with pulse laser to cut it (Col. 2, lines 58-60); the surface of the substrate is irradiated with the laser; the substrate is a semiconductor substrate formed with a number of elements and said pulse laser is irradiated along the scribed lines between said elements (Col. 6, lines 59-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 8-11, 14, 15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. as applied to claims 1, 3, 7 and 9 above, and further in view of Piwczynski et al. (6,376,797).

Harris et al. discloses that the back of the semiconductor wafer is drawn by an x-y table (Col. 6, lines 19-25); the laser is irradiated to the semiconductor wafer excluding the peripheral portion.

Harris et al. does not disclose the specific pulse width of the laser.

Piwczyk et al. disclose a short pulse laser having pulse width of tens of nanoseconds or less which is within the range claimed; and cutting a wafer (Col. 3, lines 45-55); the surface of the wafer is irradiated with the laser.

It would have been within the scope of one of ordinary skill in the art to combine the teachings of Harris et al. and Piwczyk to achieve the cutting step and further it will provide precision in intervals of time.

Choice of a particular interpulse separation and thickness of the semiconductor wafer would have been considered a matter of routine optimization. See MPEP 2144.05.

Claims 12, 13, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. in combination with Piwczyk as applied to claims 2-6, 8-11, 14, 15, 17 and 18 above, and further in view of Usami (6,440,773).

The combination of Harris et al. and Piwczyk does not disclose that the semiconductor wafer has a batch-processed adhesive agent layer on the back.

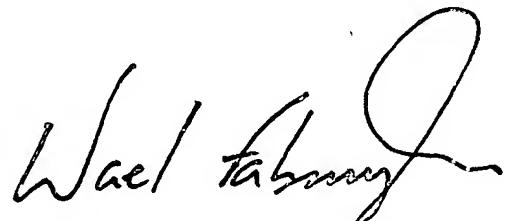
Usami discloses applying an adhesive to the back of the substrate (4907) and cutting the wafer with a laser (Claim 3).

It would have been within the scope of one of ordinary skill in the art to combine the teachings of Harris et al., Piwczky and Usami to enable formation of the wafer and further the adhesive provides protection to the substrate in subsequent steps.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Estrada whose telephone number is (703) 308-0729. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 703-308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



SUPERVISORY PRIMARY EXAMINER
TECHNOLOGY CENTER 2800


M Estrada
September 26, 2002